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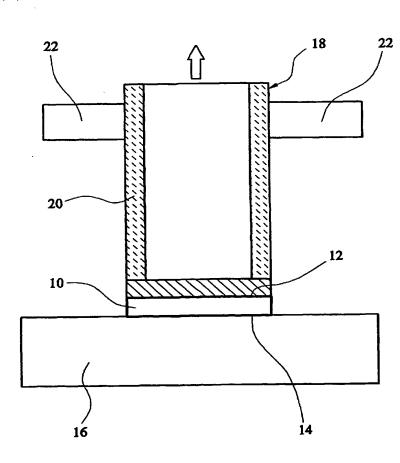
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[Continued on next page]

(54) Title: OPTEOLECTRONIC DEVICES



(57) Abstract: A light emitting semiconductor device (10) mounted on a heat sink (16) and having a heat pipe (18) located on its upper surface (12). The heat pipe (18) comprises a sealed cylindrical member of transparent or translucent material having a wick (20) disposed down the side and along the bottom thereof. The heat (18) is partially filled with a liquid which is placed under a partial vacuum to reduce its boiling point. A bundle of optical fibres may be provided within the heat pipe (18), with the gaps created between the optical fibres providing an efficient capillary action within the heat pipe (18) for transport of vapour to the cool end of the pipe (18) and for transport of condensed coolant to the hot end of the pipe (18).

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PCT/GB 03/02431 CLASSIFICATION OF SUBJECT MATTER PC 7 H01L33/00 H01S5/024 H01L23/427 According to International Patent Classification (IPC) or to both national classification and IPC B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 HO1L HO1S Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data, PAJ, INSPEC C. DOCUMENTS CONSIDERED TO BE RELEVANT Relevant to claim No. Citation of document, with indication, where appropriate, of the relevant passages 1 - 14PATENT ABSTRACTS OF JAPAN X vol. 2000, no. 19, 5 June 2001 (2001-06-05) -& JP 2001 036153 A (MATSUSHITA ELECTRIC), 9 February 2001 (2001-02-09) paragraphs '0017!-'0020! 1 - 14EP 0 658 933 A (SHARP KK) X 21 June 1995 (1995-06-21) column 19, line 49 -column 21, line 47 1-6,8-14 US 3 860 847 A (CARLEY J) X 14 January 1975 (1975-01-14) column 2, line 35 -column 4, line 18 Patent family members are listed in annex. Further documents are listed in the continuation of box C. Special categories of cited documents: "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the "A" document defining the general state of the art which is not considered to be of particular relevance earlier document but published on or after the international filing date "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) involve an inventive step when the document is taken alone document of particular relevance; the claimed invention continent or particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *O* document referring to an oral disclosure, use, exhibition or other means document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family Date of mailing of the international search report Date of the actual completion of the international search 17/05/2004 6 May 2004 **Authorized officer** Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016

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